

Customer Service in the United States

H. W. Stigler
Manager, Customer Service Program
INPUT



Customer Service in the United States

Agenda

- Environment
- IBM Actions
- 1988 Highlights
- Strategic Implications
- U.S. Market Forecast
- Conclusions

INPUT

NOTES:

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Environment

- Technology/architecture
- Support
- Contract coverage
- Warranty
- Vendor services—a key asset
- Marketplace
- User needs vs. service delivered

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NOTES:

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Technology/Architecture

- Very high reliability/low failure rates
- High speed
- Multivendor architecture support
 - Applications
 - Networks
 - Operating Systems

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Technology/Architecture

- Sophisticated network design and network management tools
- Fewer field replaceable units
- Increased cost per replaceable unit
- Sophisticated diagnostics
- Less on-site skill to service
- Powerful PCs/workstations

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Support

- Remote diagnostics
- Remote system monitoring
- TP distribution for software and microcode
- Problems data base

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Support

- Parts logistics
- Problem management system
- Call management system
- Expert systems

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Vendor Contract Coverage

	<u>Percent</u>
Large systems	90+
Small systems	60+
PC/workstations	20-

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Vendor Warranty Coverage

Large systems	
- CPUs	1 Year
- Peripherals	3 Months-1 Year
Small systems	3 Months-1 Year
PCs/workstations	3 Months-1 Year -3 Years-?

INPUT

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Vendor Service—A Key Asset

- Significant revenue source
- Key ingredient in cost of ownership
- Key to account control
- Key to quality product support
- History of high profits

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Marketplace

- Discounting of hardware leads to discounting service
- Systems integration leads to multivendor service/ support
- Users releasing RFPs for service

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Marketplace

- TPMs very active
- Sellers to buyers market
- Special bids/let's make a deal!

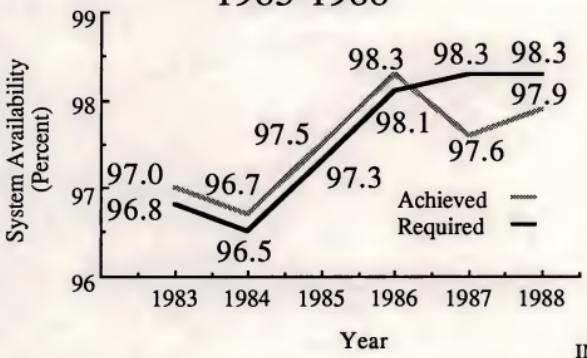
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Large Systems System Availability 1983-1988



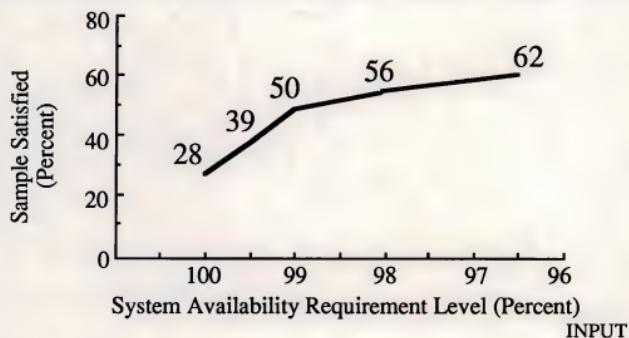
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System Availability Satisfaction by Requirement Level—All Large Systems



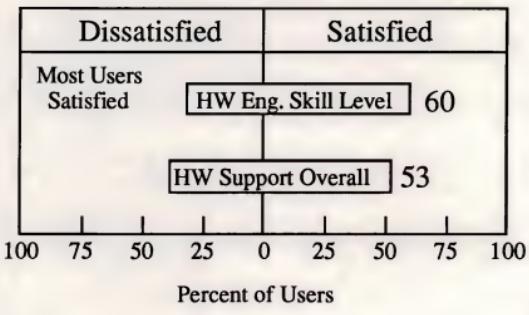
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Large System User Satisfaction with High-Priority Services



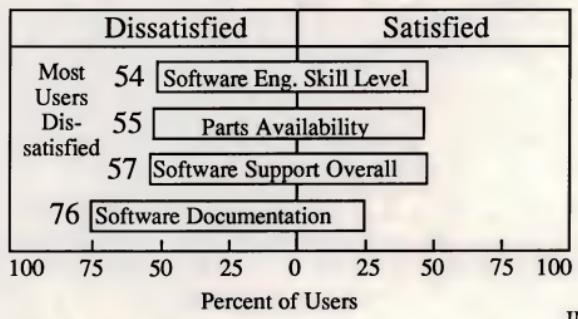
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Large System User Satisfaction with High-Priority Services



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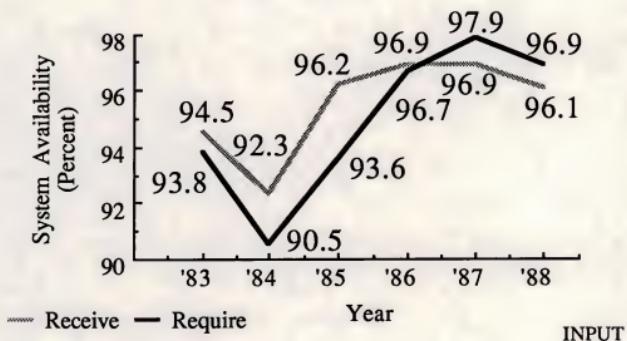
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Small Systems System Availability 1983-1988



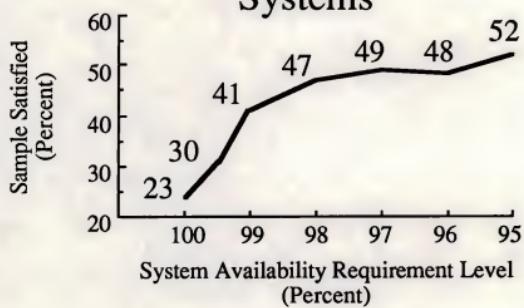
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System Availability Satisfaction by Required Level—All Small Systems



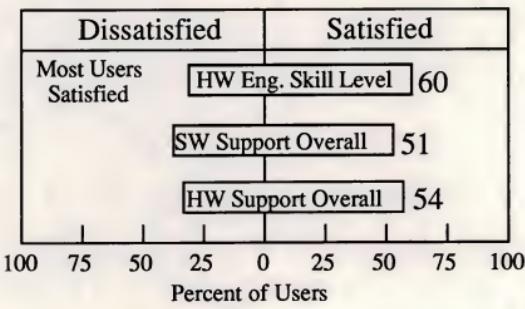
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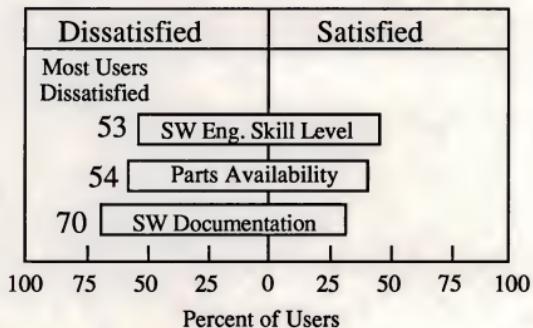
Small System User Satisfaction with High-Priority Services



NOTES:



Small System User Satisfaction with High-Priority Services



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IBM'S Actions 1986-1989

1986

- Corporate service amendment announced
 - Initialization fee and IBM assessment
 - Entire product line except copiers and typewriters

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IBM'S Actions 1986-1989

1986

- OEM support reinstated
 - problem determination
 - personal computers
- LPSA withdrawn (bundled with software license)

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IBM'S Actions 1986-1989

1987

- IBM key goals modified
 - IBM/customer partnership
 - Year of the customer
 - Openness

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IBM'S Actions 1986-1989

1987

- All sales personnel assigned maintenance quotas
 - Marketing support moved to marketing divisions

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NOTES:

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IBM'S Actions 1986-1989

1987

- Offering changes
 - Enhanced CSA
 - MRSA
 - Enhanced OEM support (PC and system integration)
 - 4-hour on-site response time
 - 21 shift standard m/a
 - Per call (m-f 7 a.m. to 6 p.m.)
 - 2-hour minimum on every call
 - Limited OTC parts sales/raised fees

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IBM'S Actions 1986-1989

1987

- HVLC services
 - IOR, IOE, and COE only
 - National courier service
- Administrative consolidations

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IBM'S Actions 1986-1989

1987

- Major non-field headcount reductions
- Midrange customer appreciation program
- New increased field manpower

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IBM'S Actions 1986-1989

1988

- Custom operational services
- IBM buys Pactel's Spectrum Services Division
- A/S 400

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IBM'S Actions 1986-1989

1988

- Extended maintenance option
- Technical services management
- Telecommunications services,
network support

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IBM'S Actions 1986-1989

1989

- Service plan
 - All service offerings under one contract
- Estimated billing option
- Extended maintenance option
 - Extended to all except usage products

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IBM'S Actions 1986-1989

1989

- Design and contractor services for data centers
 - Turnkey
 - Evaluation, design, contractor services
- Equipment modification enhancement
- Service director

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IBM'S Actions 1986-1989

1989

- Remarketer program
 - Customer orders IBM service from remarketer
 - IBM sells to remarketer, who then sells to customer

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IBM's Actions 1986-1989

1989

- Significant improvement in dealer support
 - New NSD director of complimentary channel services
 - Invoke NSD parts system
 - On-site CE support at no charge
 - Return of overstocked parts
 - Increase in number of parts exchanged

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NOTES:

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IBM's Actions 1986-1989

1989

- Entry system service amendment (ESSA)
 - Offered to dealers
 - Dealer resells to user
 - Dealer screen calls, bills user, and collects
 - Discounts up to 46%
 - MRSA 25%
 - Cluster 10% to 20%
 - Marketing 5% to 10%

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IBM Worldwide
(\$ Millions)

	1985	1986	1987	1988
Maintenance revenue	6,103	7,413	7,691	7,347
Maintenance cost	2,561	3,032	3,417	N/A
Gross profit (%)	58.0	59.1	55.6	N/A

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IBM U.S.
(\$ Billions)

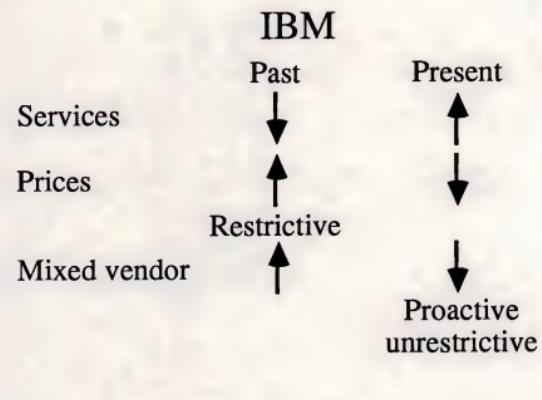
	1986	1987	1988
Maintenance revenue	4.0	3.7	3.1

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CSPA-HS-27b

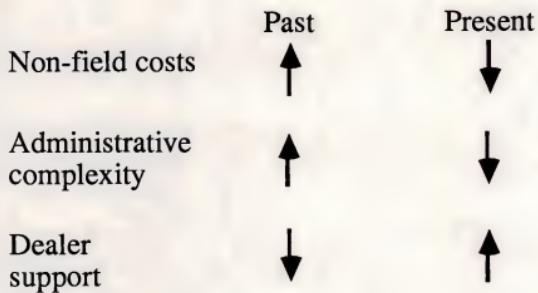




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IBM



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1988: Year in Review Quarter One

- Sorbus sells MAI business
- Sorbus lays off 600-650
- IBM raises TPM rates 15%,
contract rates 7% to 15% on selected
products
- IBM announces site services

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1988: Year in Review Quarter Two

- Datagate suit against HP dismissed
- Dataserv, TSSI announce layoffs
- IBM offers pre-payment discounts
- AS/400 features automated support

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1988: Year in Review Quarter Three

- Bell Atlantic acquires CPX
- DEC announces enterprise-wide services
- TRW acquires 3M TPM service

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CSPA-HS-31



1988: Year in Review Quarter Three

- HP, IBM announce multivendor support
- DG announces multiyear contracts
- IBM, DEC announce new network support

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CSPA-HS-32



1988: The Year in Review Quarter Four

- IDEAssociates acquires Servcom
- Decision Industries merges with Momentum
- DEC changes warranty offerings

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1988: The Year in Review Quarter Four

- Bell Atlantic acquires Dynservice
- GECS up for sale
- IBM raises M/A prices 3%

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Strategic Implications Overall

- Reduced revenue and profit opportunities for base maintenance
 - 1st—Service of IBM products
 - Followed by—Service of all vendors' products

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Strategic Implications Overall

- Total cost of ownership reduced
 - 1st—IBM products
 - Followed by—All vendors' products
- User equity will emerge as a key issue as market changes from seller's to buyer's

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CSPA-HS-35b



Strategic Implications Overall

- Key objective of hardware, software, and service vendors should be high availability at lowest cost
- Service offerings will broaden to cover everything a customer needs to achieve high availability at lowest cost
- Cost pressures and economies of scale will result in more mergers and acquisitions

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Strategic Implications Vendors' Focus Items

- Hardware product managers
 - Account control
 - Total cost of ownership
(new products)
 - High availability
 - Third-party entry
- Software product managers
 - Improved training, documentation,
on-site support

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Strategic Implications Vendors' Focus Items

- Service operational management
 - Customers' total needs vs. service delivered
 - Marketing of service
 - Cost of service

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Strategic Implications Vendors' Focus Items

- Service business managers
 - Equity
 - Third-party entry
 - VAR/VAD support
 - Third-party support
 - Broadened offerings
 - Multivendor
 - Network management
 - Ancillary services
 - Reducing administrative complexity

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NOTES:

CSPA-HS-36de



Strategic Implications Dealers/VARs' Focus Items

- Profit opportunity for service
- Account control opportunity
- Press for maximum vendor support
 - Training
 - Documentation
 - Proprietary diagnostics
 - Use of support structure
 - Parts logistics
- Broaden offerings to customers' total needs

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Strategic Implications TPMs Focus Items

- Mergers/acquisitions
- Sophisticated support will be required to achieve high availability at lowest cost
- Vendor support will decrease, prices will increase

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Strategic Implications TPMs Focus Items

- Key strengths will be full multivendor support and level of service
- Price differential with vendors will decrease

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Strategic Implications Users' Focus Items

- Differences in system availability received
- Differences in support required/
received
- Software education/documentation
- Problem management records
- Equity

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U.S. Customer Service Market

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Service Market Definition

- U.S. service market includes
 - Hardware maintenance
 - Professional services
- Software support separate
 - Cannot separate from software
 - Includes new versions

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Forecast Methodology

- 1987 base year
 - Vendor surveys
 - Annual reports
 - 10Ks
- 1988 forecast
 - Vendor surveys
 - Quarterly reports

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NOTES:

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Forecast Methodology

- Product categories
 - Installed base
 - Configuration/pricing model
- Forecast 1988-1993
 - Expected product shipments
 - Technology/pricing trends

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Market Analysis and Forecast

- Overview/product category
- Market share
- TPM market
- Fourth-party maintenance
- Professional service
- Software support

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CSPA-HS-44



U.S. Service Market* 1988-1993

Product	User Expenditures		
	1988 (\$B)	1993 (\$B)	88-93 CAGR (Percent)
Large Systems	1.2	1.4	4
Small Systems	3.6	5.1	7
Micro/Workstations	1.1	1.7	10
Peripherals	6.6	8.9	6
Total	12.5	17.1	6

*Does not include software support

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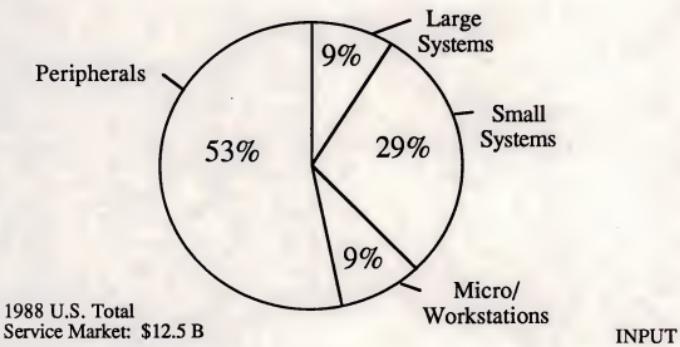
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1988 U.S. Customer Service Market



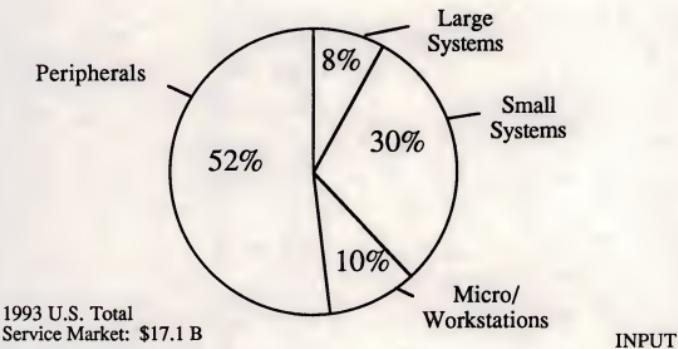
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1993 U.S. Customer Service Market



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Top Eight Large System* Service Vendors By Market Share

Rank	Company	87 Revs (\$M)	Market Share (Percent)
1	IBM	1900	63
2	Unisys	410	14
3	CDC	156	6
4	Amdahl	125	4

*Includes associated peripheral service revenue

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CSPA-HS-48



Top Eight Large System* Service Vendors By Market Share

Rank	Company	87 Revs (\$M)	Market Share (%)
5	Honeywell-Bull	120	4
6	NAS	116	3
7	Cray	100	3
8	NCR	75	2

* Includes associated peripheral service revenue

** Manufacturer-supplied market

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CSPA-HS-49



Top Ten Small System* Service Vendors By Market Share

Rank	Company	87 Revs (\$M)	Market Share (Percent)
1	DEC	1,698	23
2	IBM	1,600	21
3	NCR	900	12
4	Unisys	501	7
5	HP	424	6

*Includes associated peripheral service revenue

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CSPA-HS-50



Top Ten Small System* Service Vendors By Market Share

Rank	Company	87 Revs (\$M)	Market Share (%)
6	Data General	261	3
7	Wang	255	3
8	Prime	190	3
9	Honeywell-Bull	160	2
10	AT&T	150	2

* Includes associated peripheral service revenue

** Manufacturer-supplied market

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NOTES:

FPRB-82

CSPA-HS-51



U.S. TPM Market, 1988-1993

Product	User Expenditures		
	1988 (\$M)	1993 (\$M)	88-93 CAGR (Percent)
Large Systems	100	110	2
Small Systems	370	490	6
Micro/Workstations	580	850	8

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CSPA-HS-52



U.S. TPM Market, 1988-1993

Product	User Expenditures		
	1988 (\$M)	1993 (\$M)	88-93 CAGR (Percent)
Peripherals	530	640	4
Telecom	150	220	8
Total	1730	2310	6

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NOTES:

FPRB-83b

CSPA-HS-53



Top Ten TPMs by Market Share

Rank	Company	87 Revs (\$M)	Market Share (%)
1	TRW	255	15
2	Sorbus	220	13
3	GE	198	12
4	Intelogic Trace	134	8
5	CDC	100	6

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NOTES:

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CSPA-HS-54



Top Ten TPMs by Market Share

Rank	Company	87 Revs (\$M)	Market Share (%)
6	Servcom	79	5
7	Decision Data	70	4
8	Dataserv	67	4
9	Unisys	45	3
10	Grumman	40	2

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CSPA-HS-55



Fourth-Party Maintenance Market

Service	User Expenditures		
	1988 (\$M)	1993 (\$M)	88-93 CAGR (Percent)
Refurb	40	90	17
Refeature	10	50	38
Recondition	160	370	19
Total	210	510	21

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NOTES:

FPRB-86

CSPA-HS-56



U.S. Professional Service Market—1988-1993

Product	User Expenditures		
	1988 (\$M)	1993 (\$M)	88-93 CAGR (Percent)
Large	350	900	21
Small	400	1050	21
Total	750	1950	21

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NOTES:

FPRB-87

CSPA-HS-57



U.S. Software Support Market*

1988-1993

Software	User Expenditures		
	1988 (\$B)	1993 (\$B)	88-93 CAGR (Percent)
Applications	2.2	5.9	22
Systems	2.4	6.2	21
All Software**	4.6	12.1	21

* Includes new versions

** Software support is not included
in U.S. customer service market

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NOTES:

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CSPA-HS-58



Conclusions

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CSPA-HS-59



Conclusions

- Customer needs not being met
- System and network availability are objectives
- Software documentation and support are key

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CSPA-HS-60



Conclusions

- Term and prepayment discounts will spread
- Selective discounting will increase
- Margins will continue to decline

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CSPA-HS-61



Conclusions

- Complexity issues will become a major problem
- Role of channels will become more important
- Vendors will harden TPM policies

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CSPA-HS-62



Conclusions

- Mergers and acquisitions will continue
- Customer equity will become a key issue
- Service offerings will broaden to achieve high availability

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FPRB-91b

CSPA-HS-63



H.W. Stigler
Manager, Customer Service Program
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H.W. (Buddy) Stigler is Manager of INPUT's Customer Service Program research. Mr. Stigler brings to INPUT more than 39 years of experience in a diversified career with IBM. His information services and customer service background is vast. Mr. Stigler has been involved in the installation, maintenance, and software support of systems for most of his career. Additionally, he has considerable experience in competitive analysis, customer satisfaction, customer requirements, and needs evaluation. Mr. Stigler has served as a director of planning, measurements, I/S, staff services, offerings, and special bids. He holds a B.S. in electrical engineering from Mississippi State University and an M.S. from MIT (Sloan Fellow) in industrial management.



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H. W. (Buddy) STIGLER
Manager,
Customer Service Program

3/31/89

Memo to: Andrea Teri's
Subject: Europe CSPE conference

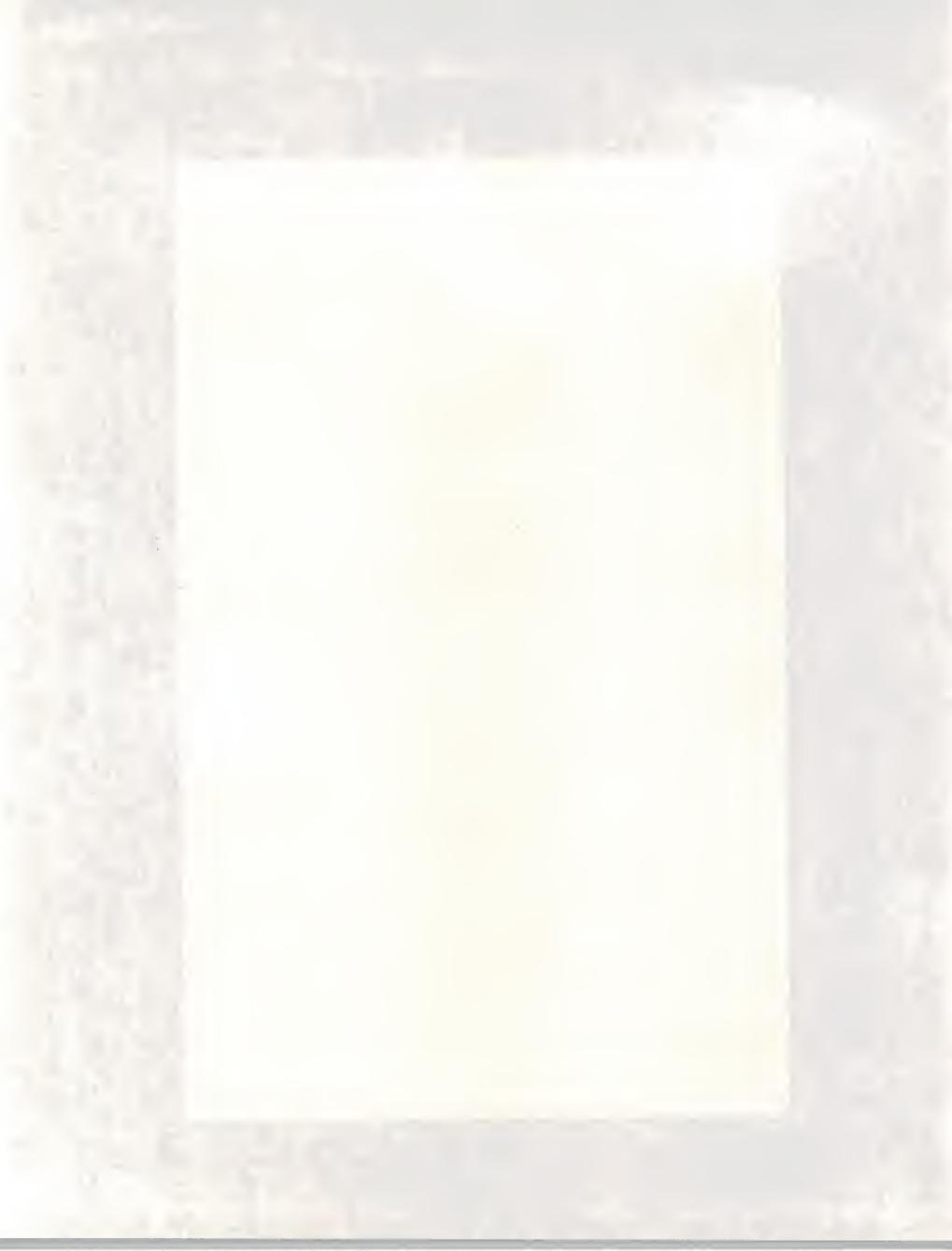
Attached are the copies of the Europe Conference Slides that I will present. I went thru all my presentations and tried to find slides that were already made before possible.

The presentation is April 19 & 20th - I will be leaving Monday afternoon April 17th -

Please call me if you have questions - I would recommend 2 copies of the slides you make - Please ask London how many handouts and how to incorporate in their Handout book - I have the slides that have already been made.

According to them, they want all slides -

Call me if you have P's - I had a copy of what I am sending - Thanks Buddy



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CUSTOMER SERVICE IN
THE
UNITED STATES

Customer Service and Support

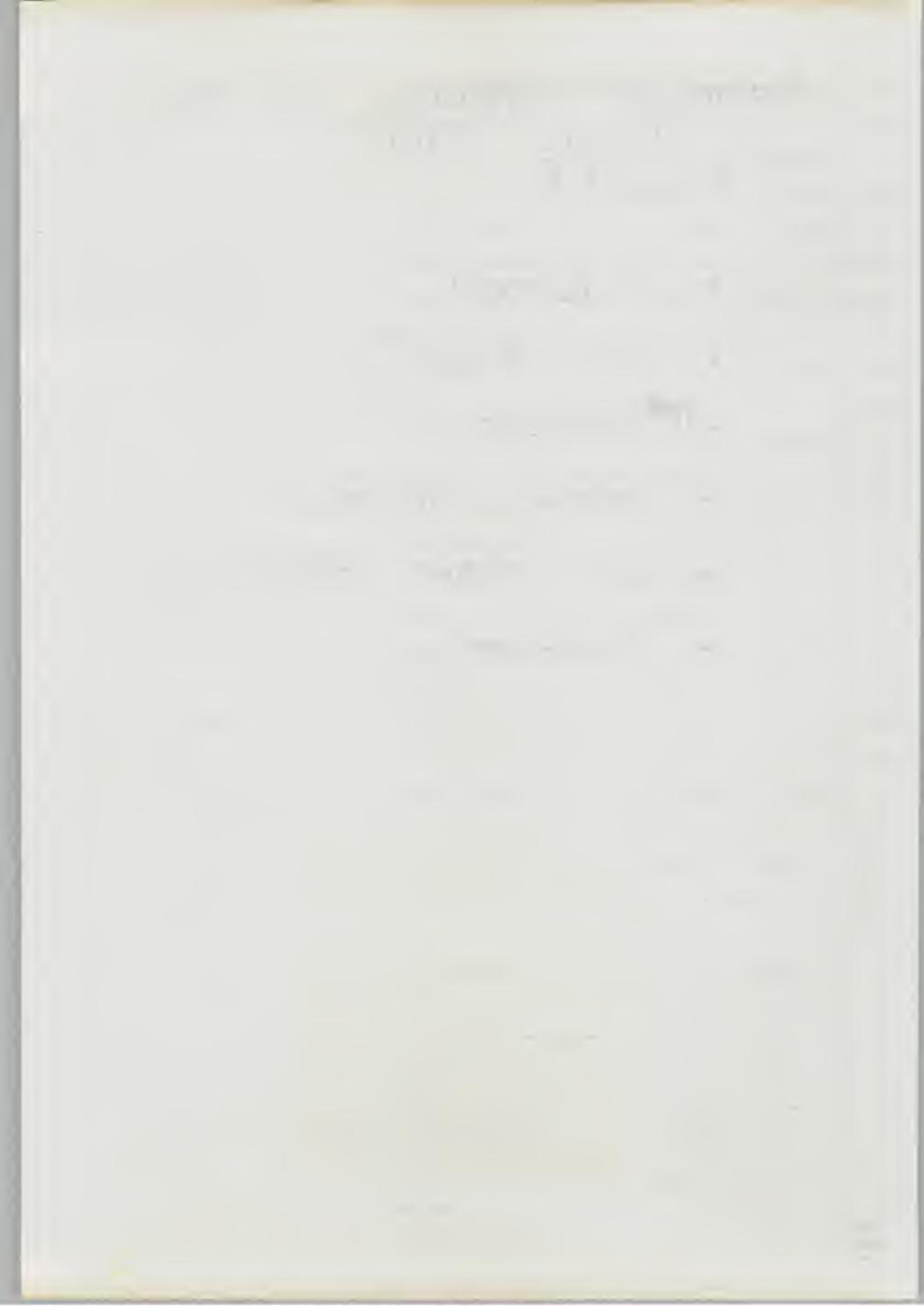
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Manager, Customer Service Program
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CUSTOMER SERVICE IN THE UNITED STATES

A GENOA

- ENVIRONMENT
- IBM ACTIONS
- 1988 HIGHLIGHTS
- STRATEGIC IMPLICATIONS
- USA MARKET FORECAST
- CONCLUSIONS



ENVIRONMENT

- Technology/Architecture
- Support
- Warranty
- Contract Coverage
- Vendor Services—A Key Asset
- Marketplace
- User Needs vs. Service Delivered

ENVIRONMENT

7 ~~100%~~

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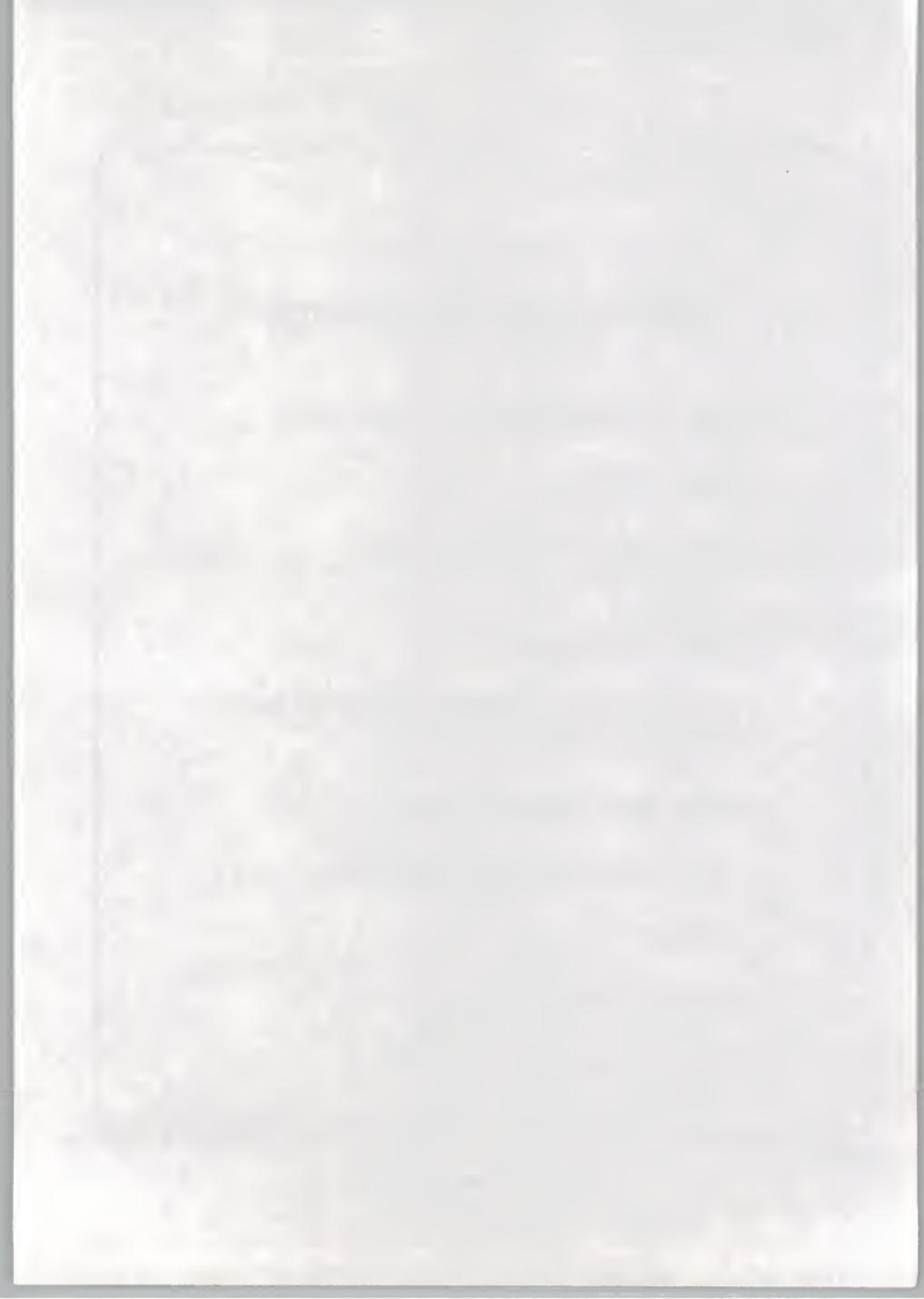


TECHNOLOGY/ARCHITECTURE

- Very High Reliability/Low Failure Rates
- High Speed
- Multivendor Architecture Support
 - Applications
 - Networks
 - Operating Systems
- Sophisticated Network Design and Network Management Tools
- Fewer Field Replaceable Units
- Increased Cost per Replaceable Unit
- Sophisticated Diagnostics
- Less On-Site Skill to Service
- Powerful PCs/Workstations

INPUT





SUPPORT

- Remote Diagnostics
- Remote System Monitoring
- TP Distribution for Software and Microcode
- Problems Data Base
- Parts Logistics
- Problem Management System
- Call Management System
- Expert Systems

INPUT





VENDOR CONTRACT COVERAGE

Large Systems	90+%
Small Systems	60+%
PC/Workstations	20-%





VENDOR WARRANTY COVERAGE

Large Systems

CPU^s 1 Year

Peripherals 3 Months-1 Year

Small Systems

3 Months-1 Year

PCs/Workstations

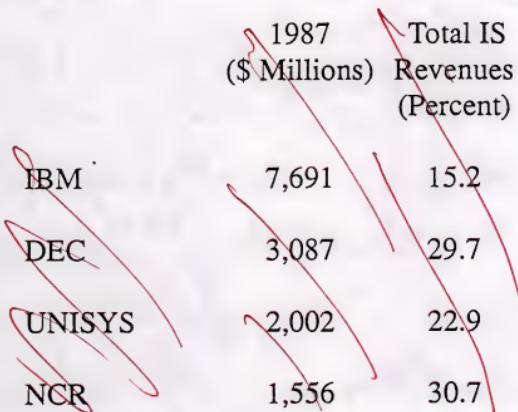
3 Months-1 Year-3 Years-?





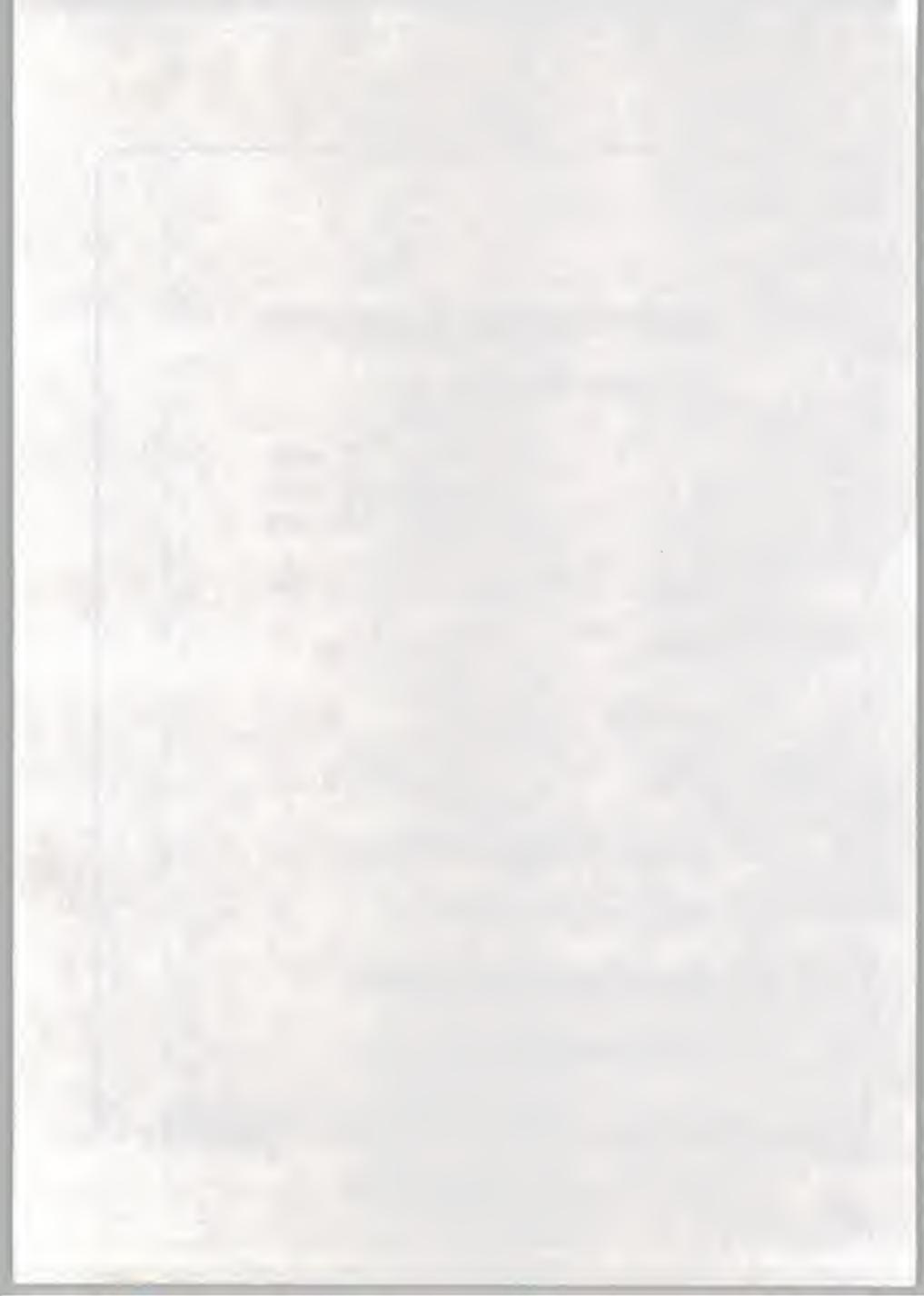
VENDOR SERVICE—A KEY ASSET

- Significant Revenue Source



- Key Ingredient in Cost of Ownership
- Key to Account Control
- Key to Quality Product Support
- History of High Profits

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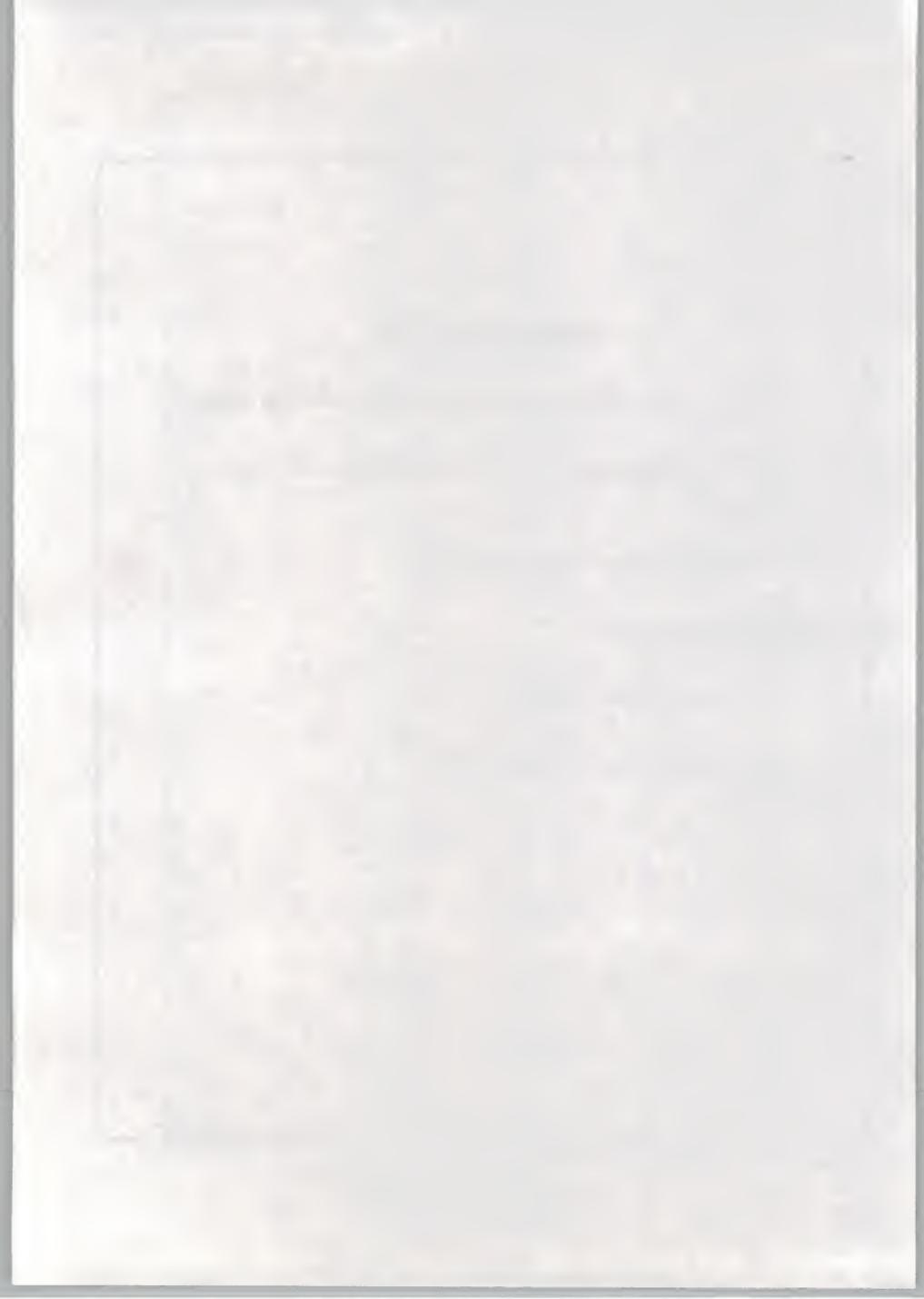


MARKETPLACE

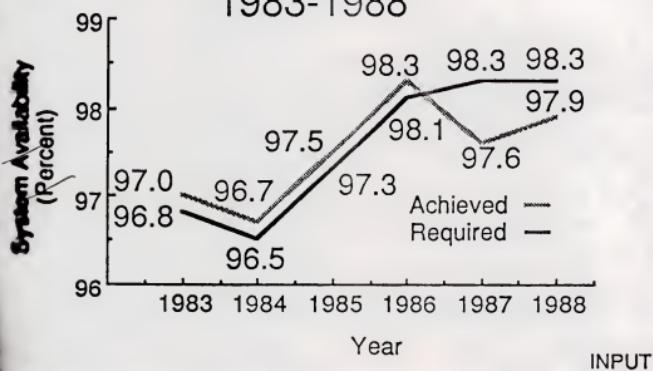
- Discounting of Hardware Leads to Discounting Service
- Systems Integration Leads to Multivendor Service/
Support
- Users Releasing RFPs for Service
- TPMs Very Active
- Sellers to Buyers Market
- Special Bids/Let's Make a Deal!

INPUT





Large Systems System Availability 1983-1988



USER Needs
VS Service
Delivered

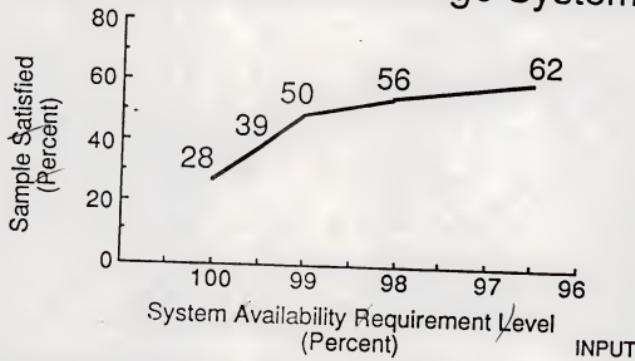
FPRB 25

(10)

INPUT



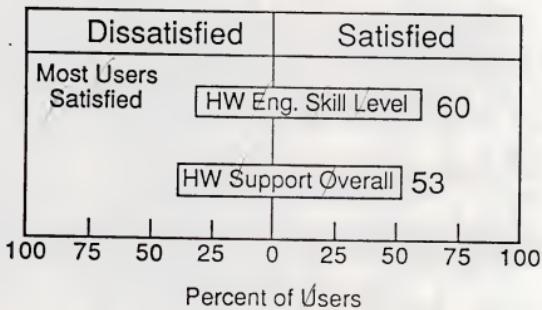
System Availability Satisfaction by Requirement Level—All Large Systems



NOTES:



Large System User Satisfaction with High-Priority Services



INPUT

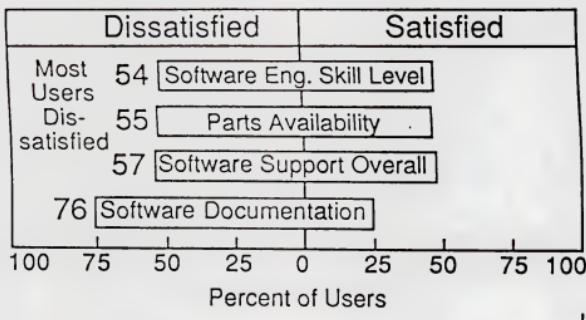
NOTES:

FPRB-29a

(17)



Large System User Satisfaction with High-Priority Services



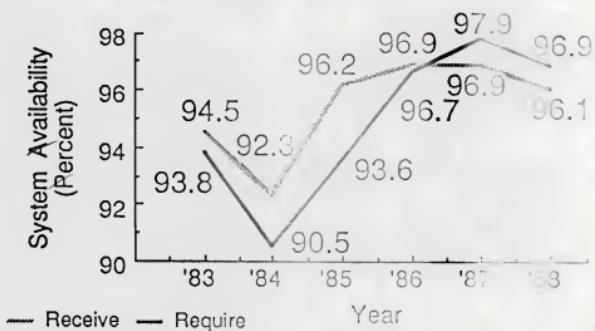
NOTES:

FPRB-29b

(13)



Small Systems System Availability 1983-1988



INPUT

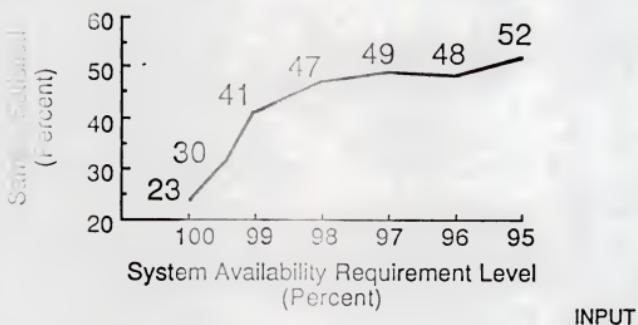
NOTES:

FPRB-40

(14)



System Availability Satisfaction Required Level All Small Systems



INPUT

NOTES:

FPRB 4/

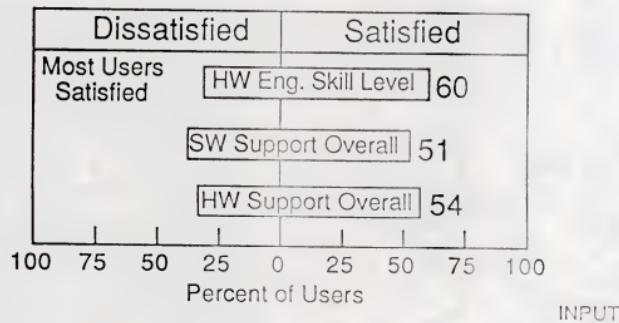
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(15)

(15)



Small System User Satisfaction with High-Priority Services



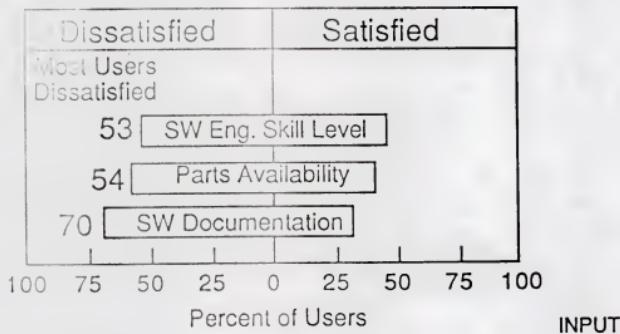
NOTES:

FPRB-44a

(16)



Small System User Satisfaction with High-Priority Services



NOTES:

-FB-44b

(17)



IBM'S ACTIONS 1986 - 1989

1986

- Corporate Service Amendment Announced
 - Initialization Fee and IBM Assessment
 - Entire Product Line except Copiers and Typewriters
- OEM Support Reinstated
 - Problem Determination
 - Personal Computers
- LPSA Withdrawn (Bundled with Software License)

IBM
ACTIONS

11 sides

— INPUT —

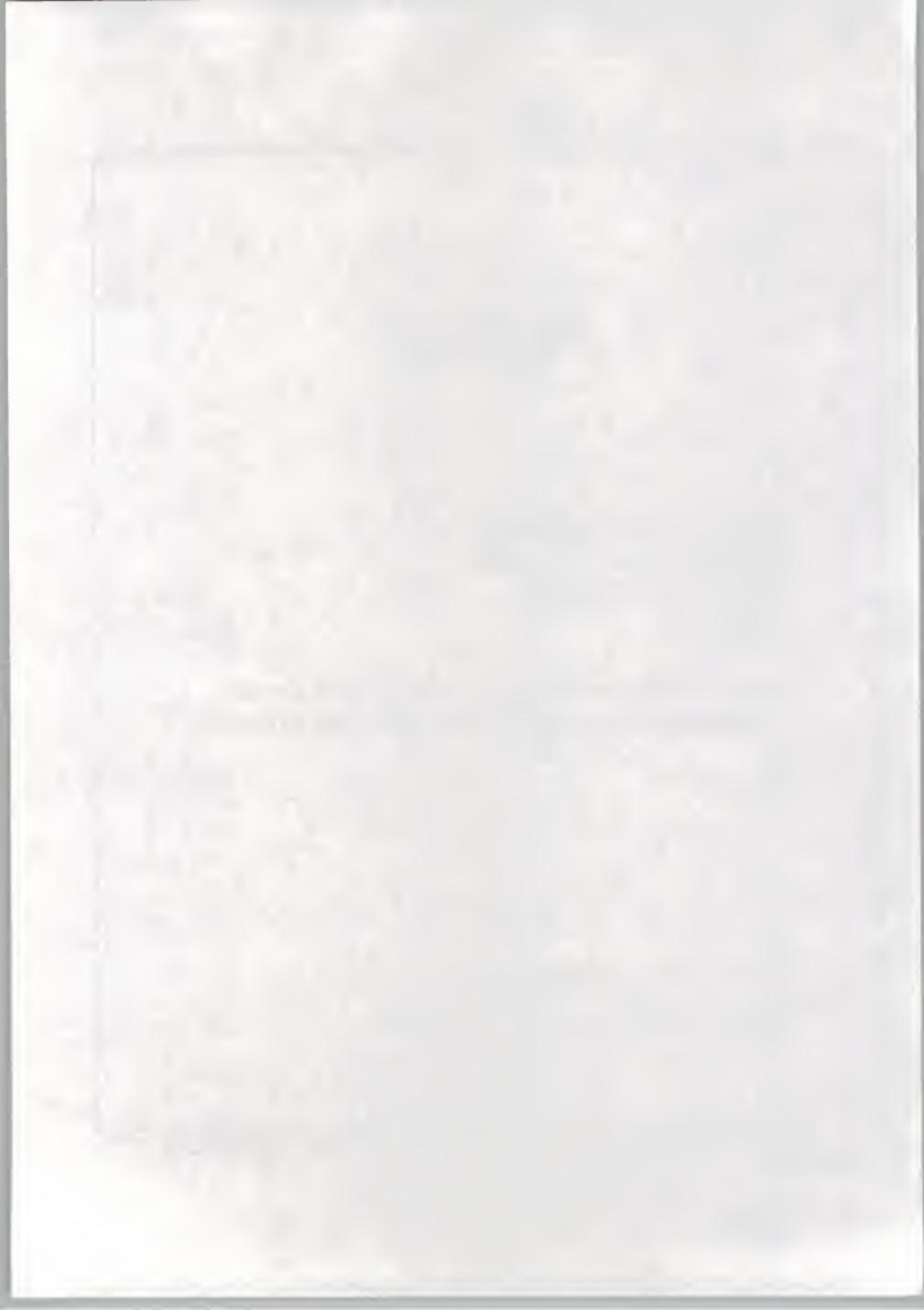


IBM'S ACTIONS 1986 - 1989

1987

- IBM Key Goals Modified
 - IBM/Customer Partnership
 - Year of the Customer
 - Openness
- All Sales Personnel Assigned Maintenance Quotas
 - Marketing Support Moved to Marketing Divisions



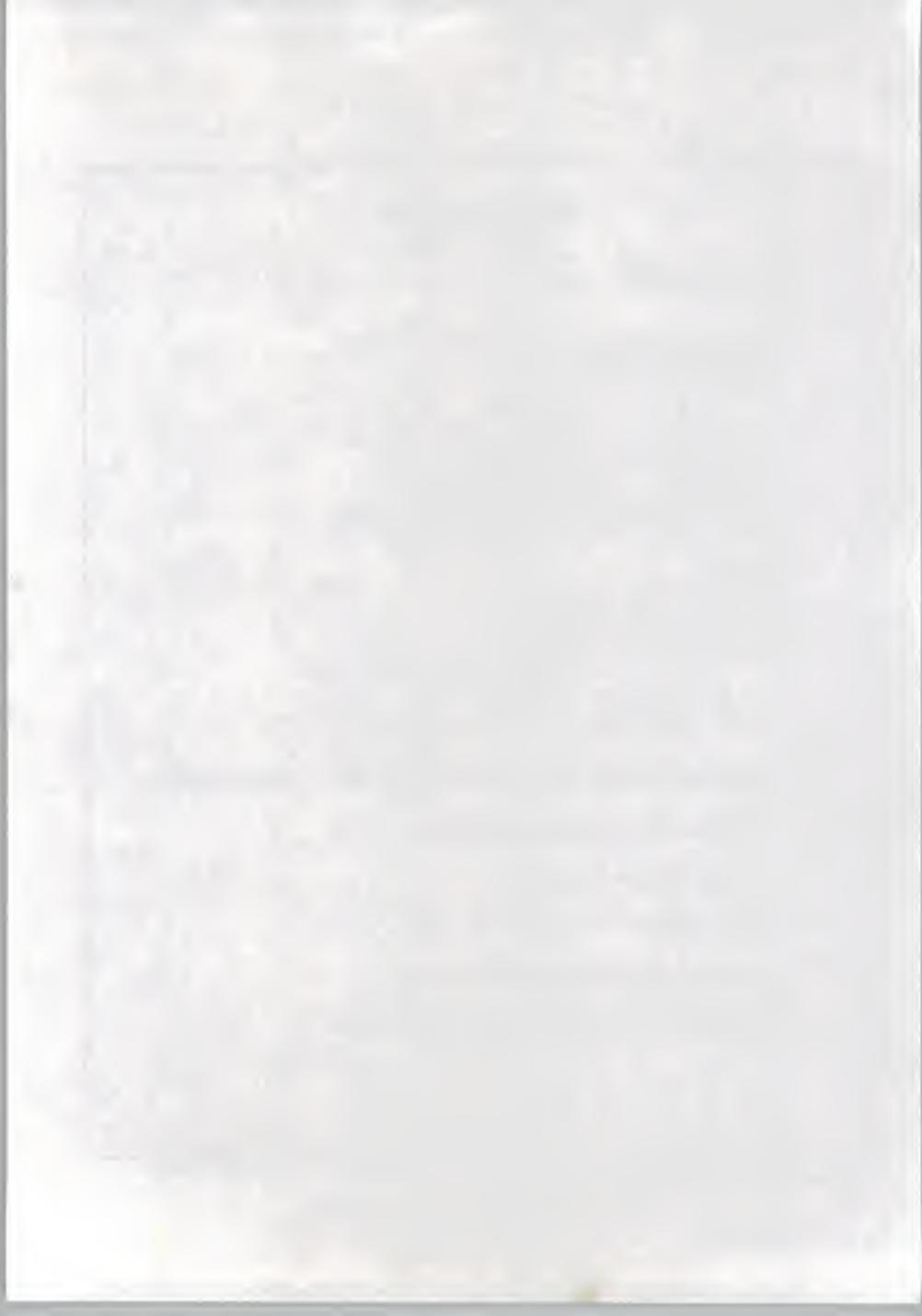


IBM'S ACTIONS 1986 - 1989

1987 (continued)

- Offering Changes
 - Enhanced CSA
 - 1-, 3-, 5-Year Options
 - 21 Shifts at N/C
 - Simplified Assessment
 - Reduced Withdrawal Terms
 - 5-Year Discounts from 19% to 45%
 - MRSA
 - 3X, 4300, 9370
 - No Initialization Fee
 - Customer Certifies Using Procedures
 - 3 and 5 Year, 21 Shifts
 - 5-Year Discounts from 17% to 30%
 - Enhanced OEM Support (PC and System Integration)
 - 4-Hour On-Site Response Time
 - 21 Shift Standard M/A
 - Per Call (M-F 7 a.m. to 6 p.m.)
 - 2-Hour Minimum on Every Call
 - Limited OTC Parts Sales/Raised Fees

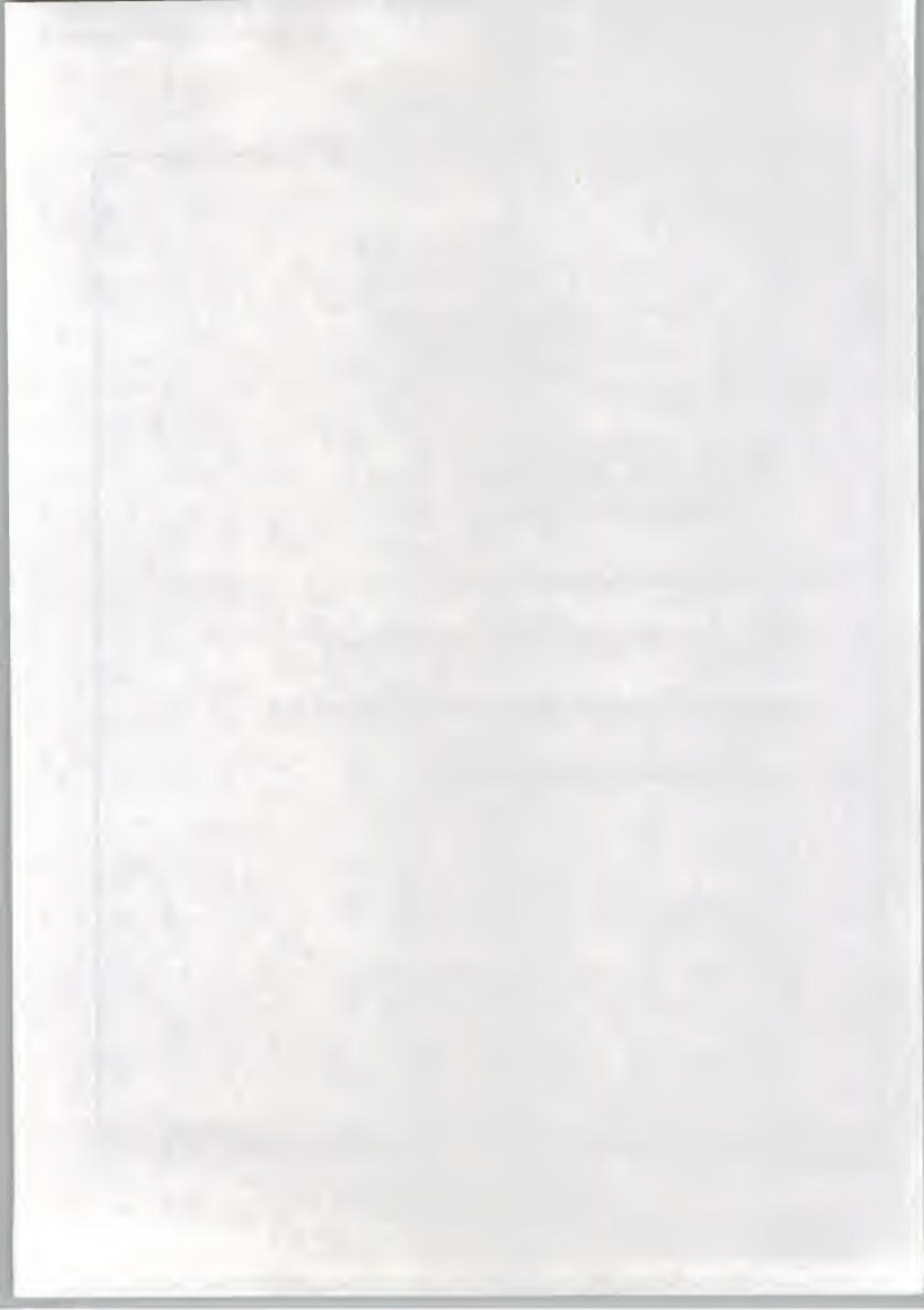
INPUT



IBM'S ACTIONS 1986 - 1989

1987 (continued)

- HVLC Services
 - ° IOR, IOE, and COE Only
 - ° National Courier Service
- Administrative Consolidations
- Major Non-Field Headcount Reductions
- Midrange Customer Appreciation Program
- New Increased Field Manpower



IBM'S ACTIONS 1986 - 1989

1988

- Custom Operational Services Announced
 - Site Planning/Preparation
 - Cabling
 - Relocation
- IBM Buys Pactel's Spectrum Services Division
- A/S 400 Announced
 - Very Low Service Prices
 - Sophisticated Remote Support
- Extended Maintenance Option Announced
 - Prepayment Discount
 - 3-, 4-, 5 Year Term
 - Selected Machine Types

INPUT



IBM'S ACTIONS 1986 - 1989

1988 (continued)

- Technical Services Management
 - Mixed Vendor Support
 - Repair Coordination
 - Maintenance Coordination
 - Service Management
- Telecommunications Services, Network Support
 - Remote Network Management Assistance
 - Mixed Vendor Coordination
 - Advanced Network Monitoring and Diagnostic Tools

INPUT



IBM'S ACTIONS 1986-1989

1989

- Service Plan
 - All Service Offering under One Contract
- Estimated Billing Option
 - Five-Year Contract with One-Year Increments
 - Fixed Price
 - Single Invoice—Monthly, Quarterly, Semiannual, Annual
 - Enterprise, Establishment, or Customer Number
 - Includes non-IBM Devices
- Extended Maintenance Option
 - Extended to All except Usage Products
 - Three-, Four-, and Five-Year Prepayments

INPUT



IBM'S ACTIONS 1986-1989

1989 (continued)

- Design and Contractor Services for Data Centers
 - Turnkey
 - Evaluation, Design, Contractor Services
- Equipment Modification Enhancement
 - Custom-Furnished Parts
 - 308X, System 36, System 38
 - Faster Response Time
- Service Director
 - P/S 2-Mod 80
 - Monitors Log Rec Thresholds
 - Autocalls Support Center
 - Accounts with Over 16 Spindles
- Remarketer Program
 - Customer Orders IBM Service from Remarketer
 - IBM Sells to Remarketer, Who then Sells to Customer

INPUT



IBM's Actions 1986-89

1989 (continued)

- o Significant Improvement in Dealer Support
 - New NSD Director of Complementary Channel Services
 - Invoke NSD Parts system
 - On site CE support at No charge
 - Return of overstocked Parts
 - Increase in number of Parts Exchanged
- o Factory System Service Amendment (FSSA)
 - offered to dealers
 - Dealer resells to user
 - Dealer screens calls, bills user and collects
 - Discounts go to 46%
 - MRSR 25%
 - Cluster 10-20%
 - Marketing 5 to 10%

18-12) Two individuals were seen.
A small bird with a long beak
was seen flying over the water.
The other bird was a small
brown bird with a short beak
seen flying over the water.

retyped

IBM WORLDWIDE
\$ Millions

	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>
Maintenance Revenue	6,103	7,413	7,691	7,347
Maintenance Cost	2,561	3,032	3,417	N/A
Gross Profit	58.0%	59.1%	55.6%	N/A

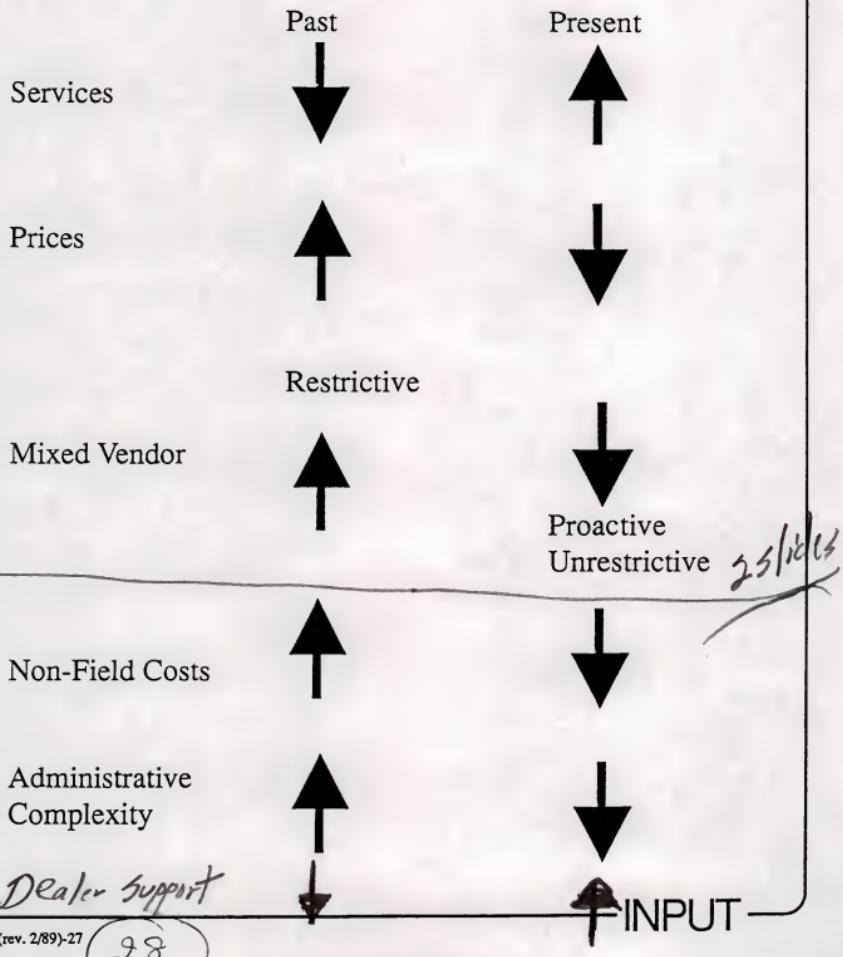
IBM U.S.
\$ Billions

	<u>1986</u>	<u>1987</u>	<u>1988</u>
Maintenance Revenue	4.0	3.7	3.1

INPUT



IBM





1988: Year in Review Quarter One

- Sorbus Sells MAI Business
- Sorbus Lays Off 600-650
- IBM Raises TPM Rates 15%
Contract Rates 7-15% on Selected
Products
- IBM Announces Site Services

INPUT

NOTES:

*Customer support
highlights*

FPRB-5.



1988: Year in Review Quarter Two

- Datagate Suit against HP Dismissed
- Dataserv, TSSI Announce Layoffs
- IBM Offers Pre-Payment Discounts
- AS/400 Features Automated Support

INPUT

NOTES:

FPRB-6

30

NPU

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INPUT



1988: Year in Review Quarter Three

- Bell Atlantic Acquires CPX
- DEC Announces Enterprise-wide Services
- TRW Acquires 3M TPM Service

INPUT

NOTES:

FPRB-7a

31



1988: Year in Review Quarter Three

- HP, IBM Announce Multivendor Support
- DG Announces Multi-Year Contracts
- IBM, DEC Announce New Network Support

INPUT

NOTES:

FPRB-7b

32



1988: The Year in Review Quarter Four

- IDEAssociates Acquires Servcom
- Decision Industries Merges with Momentum
- DEC Changes Warranty Offerings

INPUT

NOTES:

FPRB-8a

33



1988: The Year in Review Quarter Four

- Bell Atlantic Acquires Dynservice
- GECS up for Sale
- IBM Raises M/A Prices 3%

INPUT

NOTES:

FPRB-8b

34



*STRATEGIC
IMPLICATIONS*

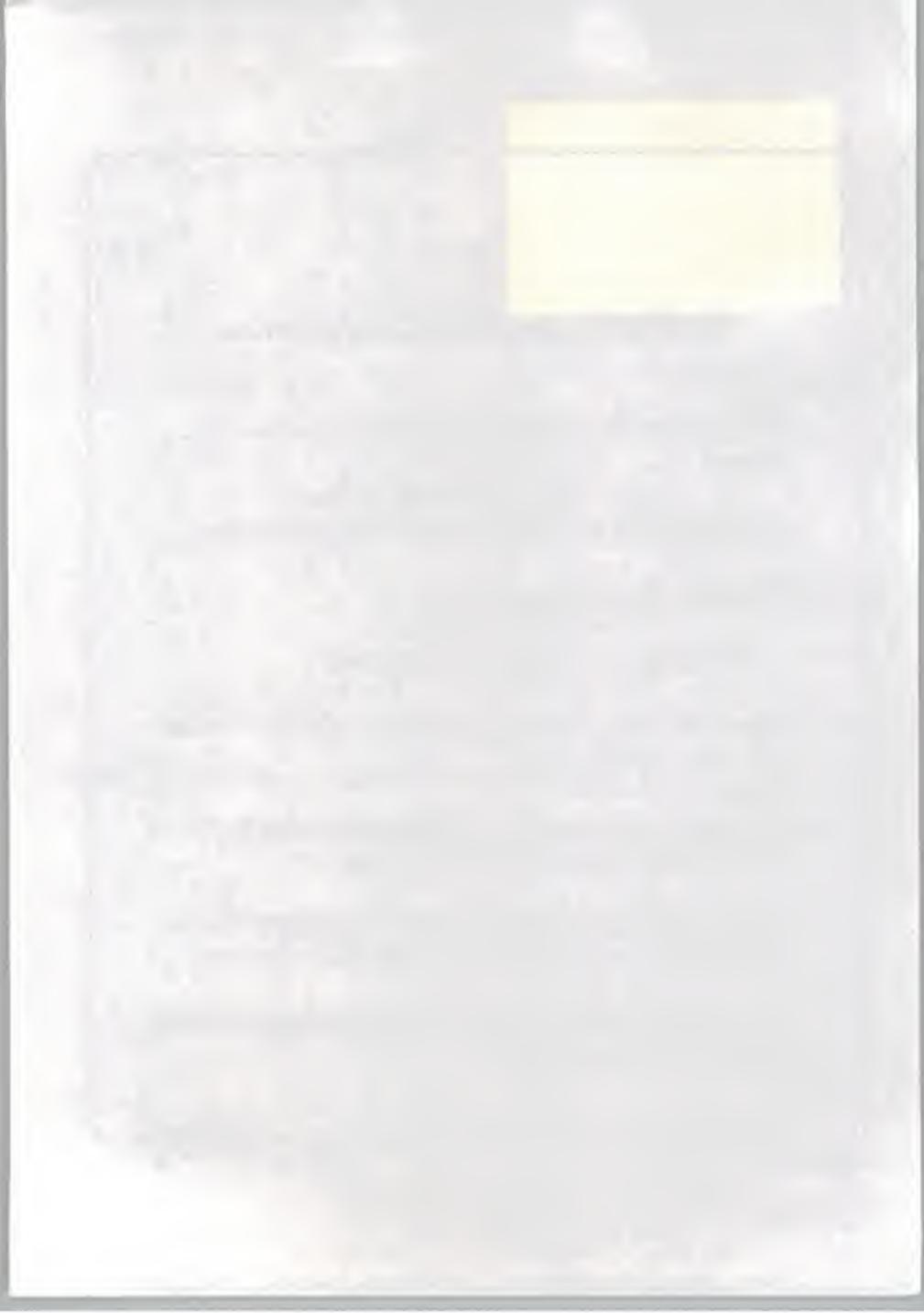
5 slides

STRATEGIC IMPLICATIONS OVERALL

- Reduced revenue and profit opportunities for base maintenance
 - 1st — Service of IBM products
 - Followed by — Service of all vendors' products
- Total cost of ownership reduced
 - 1st — IBM products
 - Followed by — All vendors' products
- User equity will emerge as a key issue as market changes from seller's to buyer's
- Key objective of hardware, software, and service vendors should be high availability at lowest cost
- Service offerings will broaden to cover everything a customer needs to achieve high availability at lowest cost
- Cost pressures and economies of scale will result in more mergers and acquisitions

2/3/88

INPUT



STRATEGIC IMPLICATIONS—VENDORS' FOCUS ITEMS

Hardware Product Managers

Account Control

Total Cost of Ownership (New Products)

High Availability

Third-Party Entry

Software Product Managers

Improved Training, Documentation, On-Site Support

Service Operational Management

Customers' Total Needs vs. Service Delivered

Marketing of Service

Cost of Service

Service Business Managers

Equity

Third-Party Entry

VAR/VAD Support

Third-Party Support

Broadened Offerings

Multivendor

Network Management

Ancillary Services

Reducing Administrative Complexity

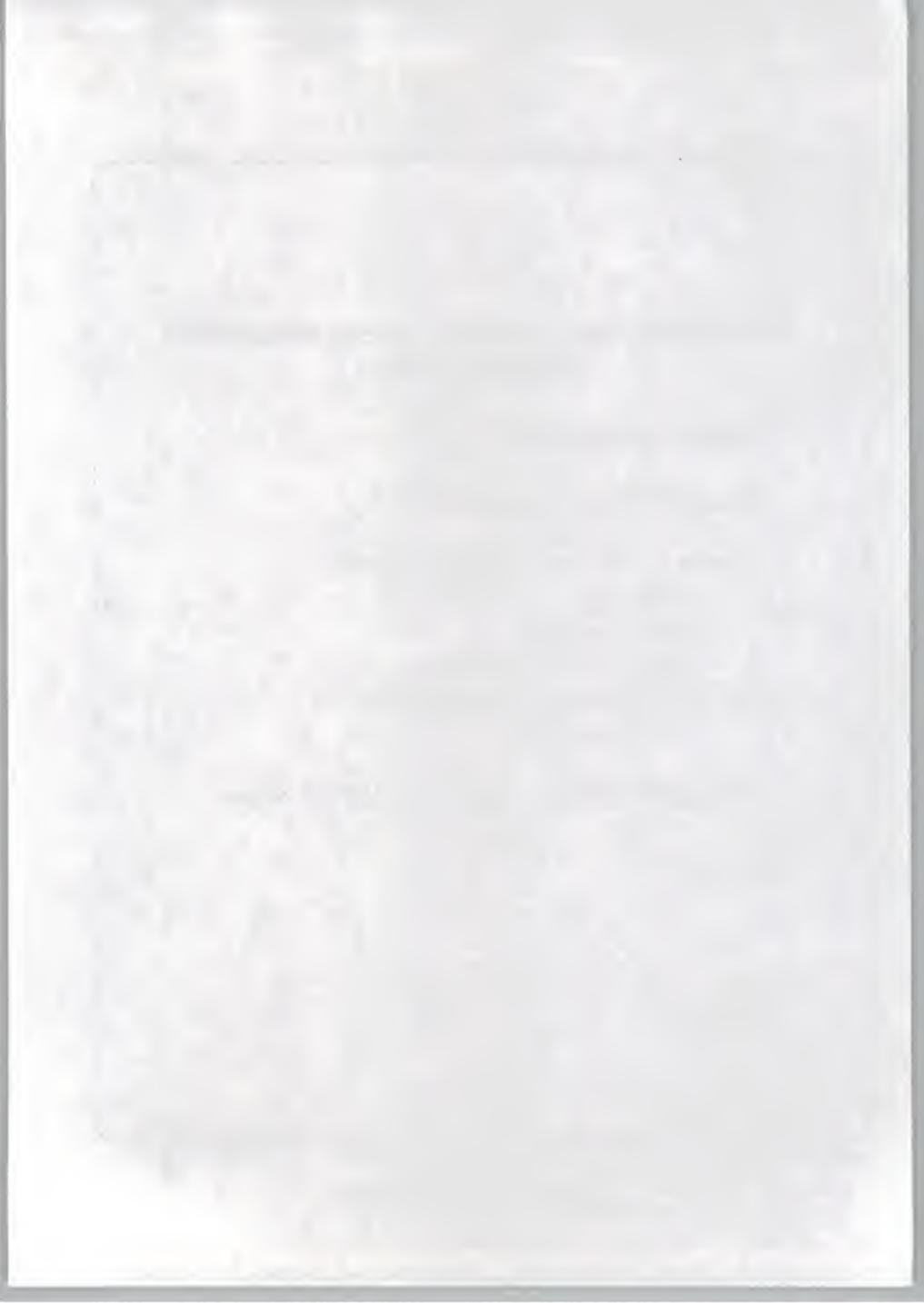
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STRATEGIC IMPLICATIONS—DEALERS/VARS' FOCUS ITEMS

- Profit Opportunity for Service
- Account Control Opportunity
- Press for Maximum Vendor Support
 - Training
 - Documentation
 - Proprietary Diagnostics
 - Use of Support Structure
 - Parts Logistics
- Broaden Offerings to Customers' Total Needs

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put fuel
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Save
space on slide



STRATEGIC IMPLICATIONS—TPMs FOCUS ITEMS

- ~~Reduced Margins Will Result in More Mergers/Acquisitions~~
- Sophisticated Support Will Be Required to Achieve High Availability at Lowest Cost
 - ~~Remote Support~~
 - ~~Parts Logistics~~
- Vendor Support Will Decrease, Prices Will Increase
- Key Strengths Will Be Full Multivendor Support and Level of Service
- Price Differential with Vendors Will Decrease

INPUT



STRATEGIC IMPLICATIONS—USERS' FOCUS ITEMS

Differences in System Availability Received

Differences in Support Required/Received

Software Education/Documentation

Problem Management Records

Equity

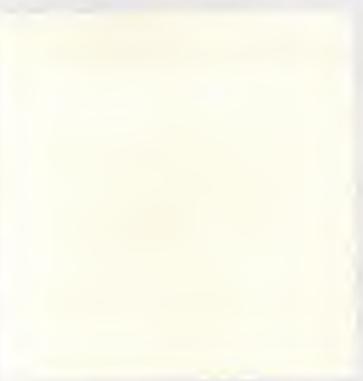
INPUT



U.S. Customer Service Market

INPUT

MARKET
19 SLIDES



Service Market Definition

- U.S. Service Market Includes
 - Hardware Maintenance
 - Professional Services
- Software Support Separate
 - Cannot Separate from Software
 - Includes New Versions

INPUT

NOTES:

FPRB-97

41



Forecast Methodology

- 1987 Base Year
 - Vendor Surveys
 - Annual Reports
 - 10Ks
- 1988 Forecast
 - Vendor Surveys
 - Quarterly Reports

INPUT

NOTES:

FPRB-98

42



Forecast Methodology

- Product Categories
 - Installed Base
 - Configuration/Pricing Model
- Forecast 1988-1993
 - Expected Product Shipments
 - Technology/Pricing Trends

INPUT

NOTES:

FPRB-99

43



Market Analysis and Forecast

- Overview/Product Category
- Market Share
- TPM Market
- Fourth-Party Maintenance
- Professional Service
- Software Support

INPUT

NOTES:

FPRB-75

44



U.S. Service Market* 1988-1993

Product	User Expenditures		
	1988 (\$B)	1993 (\$B)	88-93 AAGR (Percent)
Large Systems	1.2	1.4	4
Small Systems	3.6	5.1	7
Micro/Workstations	1.1	1.7	10
Peripherals	6.6	8.9	6
Total	12.6	17.1	6

*Does not include software support

INPUT

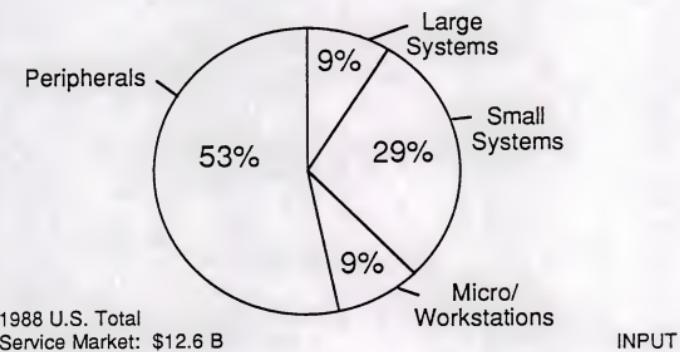
NOTES:

FPRB-76

45



1988 U.S. Customer Service Market



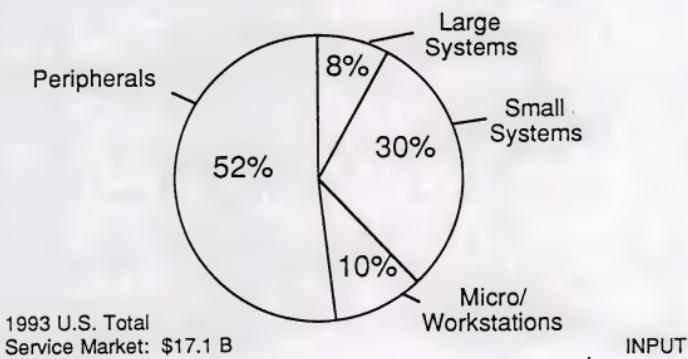
NOTES:

FPRB-77

(46)



1993 U.S. Customer Service Market



NOTES:

FPRB-78

(47)



Top Eight Large System* Service Vendors By Market Share

Rank	Company	87 Revs (\$M)	Market Share (Percent)
1	IBM	1900	63
2	Unisys	410	14
3	CDC	156	6
4	Amdahl	125	4

*Includes Associated Peripheral Service Revenue

INPUT

NOTES:

FPRB-79

48

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INPUT



Top Eight Large System* Service Vendors By Market Share

Rank	Company	87 Revs (\$M)	Market Share (%) ^{**}
5	Honeywell-Bull	120	4
6	NAS	116	3
7	Cray	100	3
8	NCR	75	2

* Includes Associated Peripheral Service Revenue

** Manufacturer-Supplied Market

INPUT

NOTES:

FPRB-80

49



Top Ten Small System* Service Vendors By Market Share

Rank	Company	87 Revs (\$M)	Market Share (Percent)
1	DEC	1,698	23
2	IBM	1,600	21
3	NCR	900	12
4	Unisys	501	7
5	HP	424	6

*Includes Associated Peripheral Service Revenue

INPUT

NOTES:

FPRB-81

50

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INPUT



Top Ten Small System* Service Vendors By Market Share

Rank	Company	87 Revs (\$M)	Market Share (%) ^{**}
6	Data General	261	3
7	Wang	255	3
8	Prime	190	3
9	Honeywell-Bull	160	2
10	AT&T	150	2

* Includes Associated Peripheral Service Revenue

INPUT

** Manufacturer-Supplied Market

NOTES:

FPRB-82

(51)



U.S. TPM Market, 1988-1993

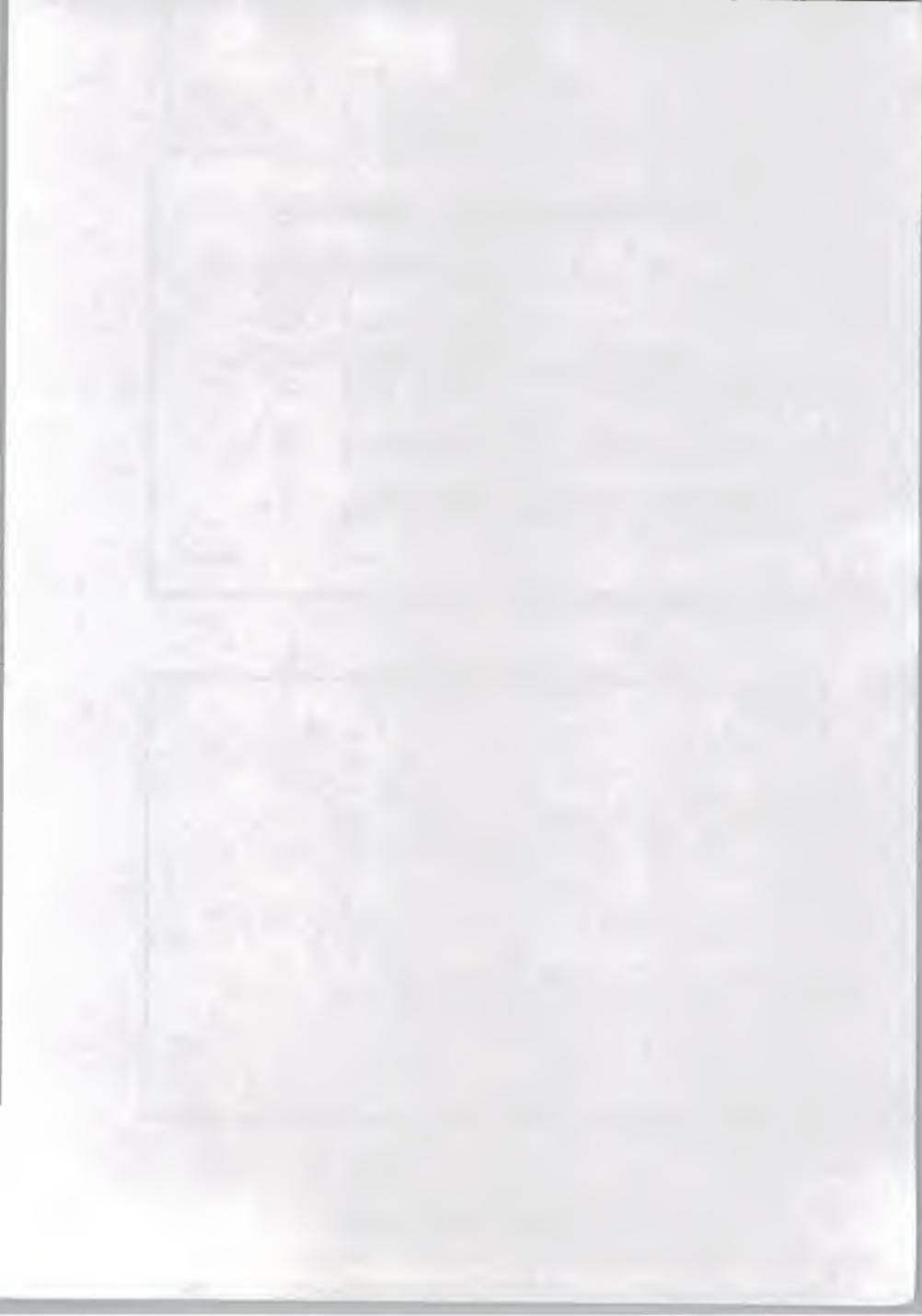
Product	User Expenditures		
	1988 (\$M)	1993 (\$M)	88-93 AAGR (Percent)
Large Systems	100	110	2
Small Systems	370	490	6
Micro/Workstations	580	850	8

INPUT

NOTES:

FPRB-83a

52



U.S. TPM Market, 1988-1993

Product	User Expenditures		
	1988 (\$M)	1993 (\$M)	88-93 AAGR (Percent)
Peripherals	530	640	4
Telecom	150	220	8
Total	1730	2310	6

INPUT

NOTES:

FPRB-83b



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INPUT



Top Ten TPMs by Market Share

Rank	Company	87 Revs (\$M)	Market Share (%)
1	TRW	255	15
2	Sorbus	220	13
3	GE	198	12
4	Intelogic Trace	134	8
5	CDC	100	6

INPUT

NOTES:

FPRB-84

(54)



Top Ten TPMs by Market Share

Rank	Company	87 Revs (\$M)	Market Share (%)
6	Servcom	79	5
7	Decision Data	70	4
8	Dataserv	67	4
9	Unisys	45	3
10	Grumman	40	2

INPUT

NOTES:

FPRB-85

55



Fourth-Party Maintenance Market

Service	User Expenditures		
	1988 (\$M)	1993 (\$M)	88-93 CAGR (Percent)
Refurb	40	90	17
Refeature	10	50	29
Recondition	160	370	19
Total	210	510	21

INPUT

NOTES:

FPRB-86

56



U.S. Professional Service Market—1988-1993

Product	User Expenditures		
	1988 (\$M)	1993 (\$M)	88-93 CAGR (Percent)
Large	350	900	21
Small	400	1050	21
Total	750	1950	21

INPUT

NOTES:

FPRB-87

57



U.S. Software Support Market* 1988-1993

Software	User Expenditures		
	1988 (\$B)	1993 (\$B)	88-93 CAGR (Percent)
Applications	2.2	5.9	22
Systems	2.4	6.2	21
All Software**	4.6	12.1	21

* Includes new versions

** Software support is not included
in U.S. customer service market

INPUT

NOTES:

FPRB-88

58

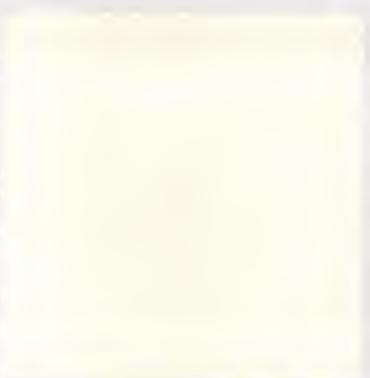


Conclusions

INPUT

CONCLUSIONS

5 slides



Conclusions

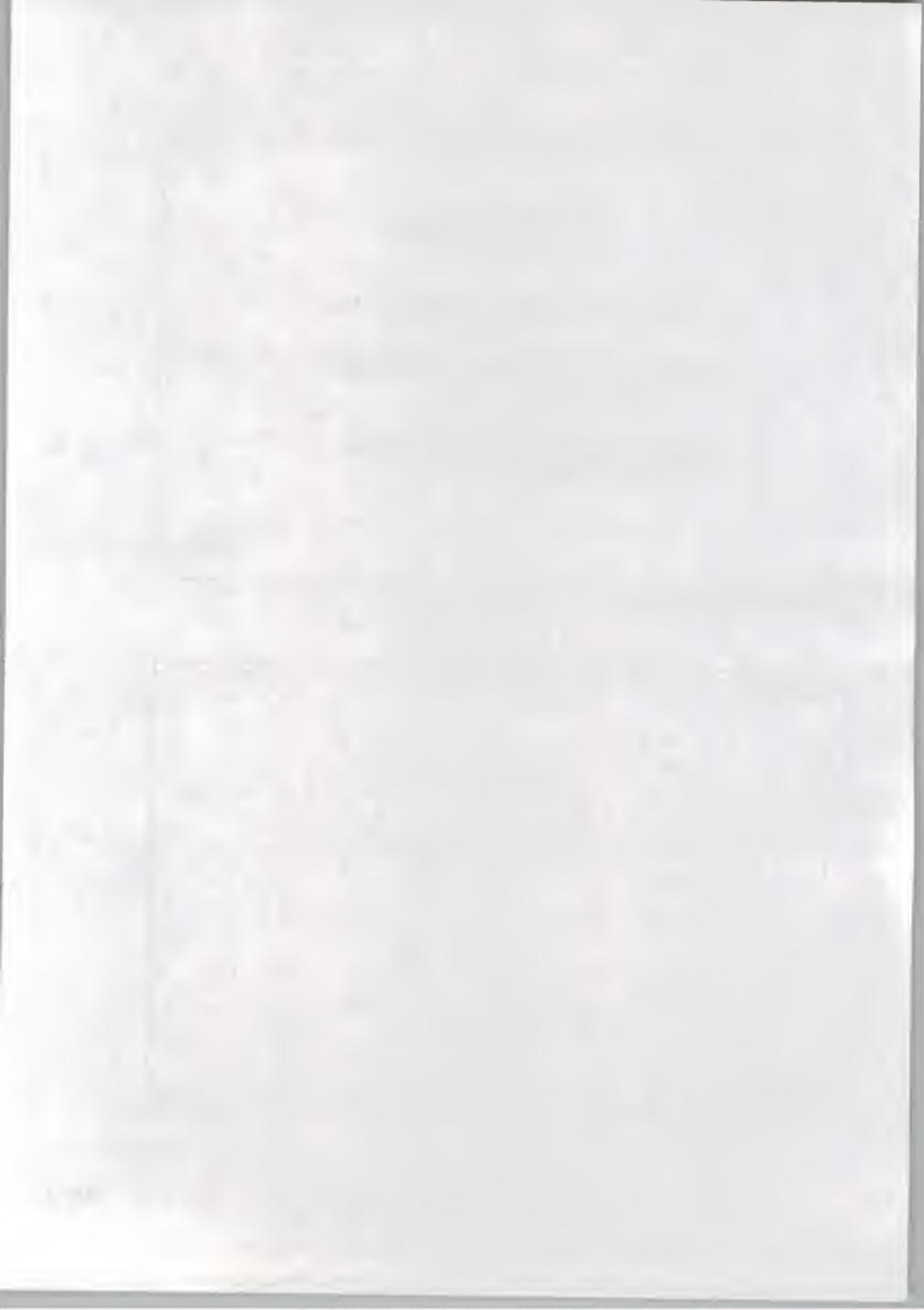
- Customer Needs Not Being Met
- System and Network Availability Are Objectives
- Software Documentation and Support Are Key

INPUT

NOTES:

FPRB-90a

60



Conclusions

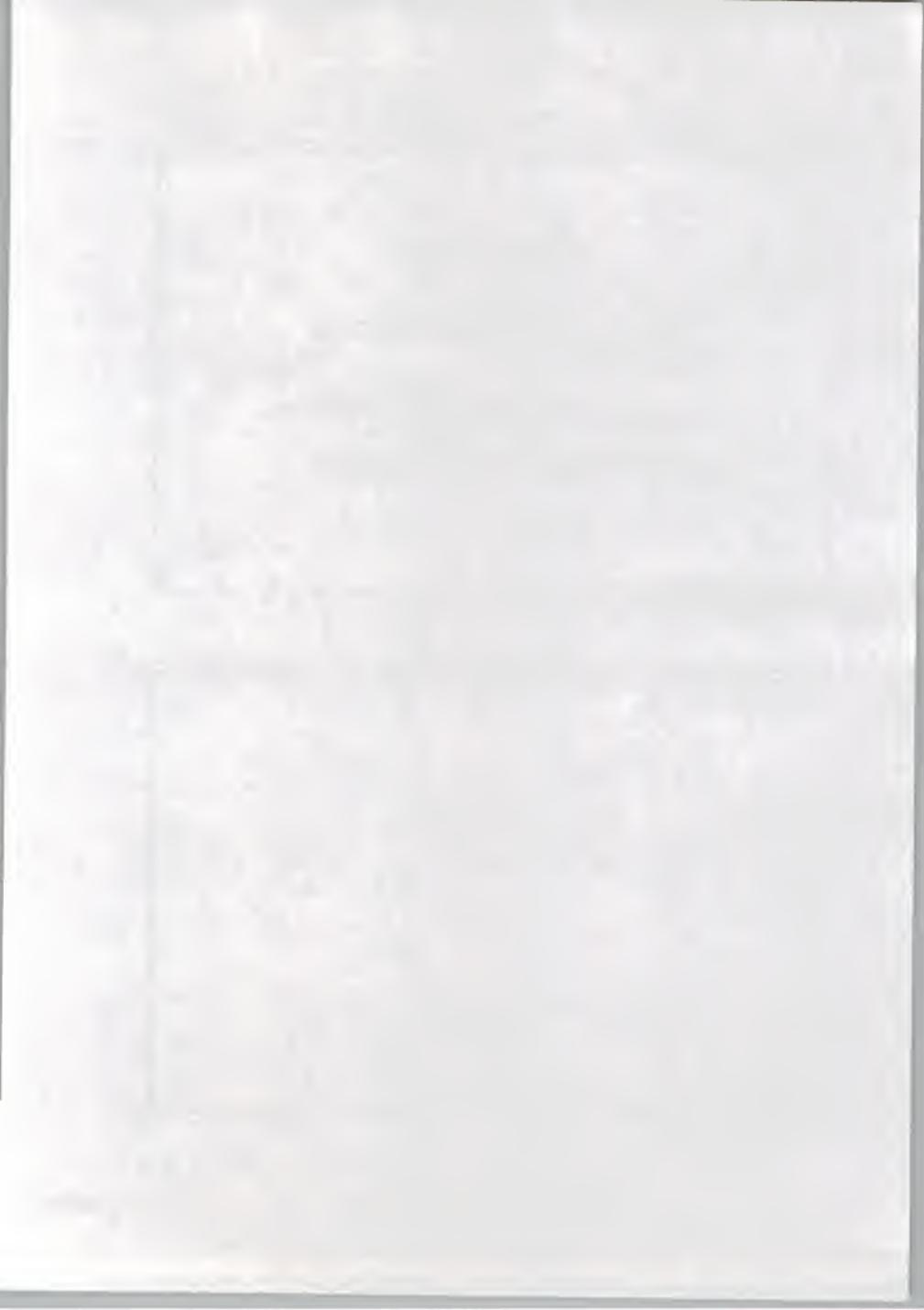
- Term and Prepayment Discounts Will Spread
- Selective Discounting Will Increase
- Margins Will Continue to Decline

INPUT

NOTES:

FPRB-90b

61



Conclusions

- Complexity Issues Will Become a Major Problem
- Role of Channels Will Become More Important
- Vendors Will Harden TPM Policies

INPUT

NOTES:

FPRB-91a

62



Conclusions

- Mergers and Acquisitions Will Continue
- Customer Equity Will Become a Key Issue
- Service Offerings Will Broaden to Achieve High Availability

INPUT

NOTES:

FPRB-91b

63

